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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,240	12/13/2001	Yan Hou	2207/11505	1554
26646	7590	09/23/2004	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			DO, CHAT C	
			ART UNIT	PAPER NUMBER
			2124	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/017,240	HOU ET AL.	
	Examiner	Art Unit	
	Chal C. Do	2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12/13/01; 02/25/02.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 9 and 12 are objected to because of the following informalities: Claims 9 and 12 have limitations as cited in claims 7 and 10 respectively. Thus, the applicant is advised to amend or cancel claims 9 and 12 in order to avoid a duplicated claims. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Jang et al. (U.S. 5,481,487).

Re claim 1, Jang et al. disclose in Figures 4-5 a system for performing temporal order independent numerical computations on data (Figure 4) comprising: a computation block (either 110, 130, or 140); a buffer block (120) wherein the buffer block includes at least one first buffer (141) for storing data values utilized in an addition operation by the computation block and at least one second buffer (142) for storing data values utilized in a multiplication operation by the computation block; wherein, upon a condition, data

values are transferred from the buffer block to the computation block for processing (Figure 5 and computation as seen in col. 1 line 54).

Re claim 2, Jang et al. further disclose in Figures 4-5 the first and second buffers are FIFO ("First In First Out") buffers (col. 7 lines 62-67 and col. 8 lines 1-3).

Re claim 3, Jang et al. further disclose in Figures 4-5 wherein the computation block computes an IDCT (Inversed Discrete Cosine Transform) (col. 1 lines 36-42 and col. 2 lines 31-35).

Re claim 4, Jang et al. further disclose in Figures 4-5 eight first buffers are utilized, each corresponding to a column of an 8x8 block of data (col. 3 lines 14-16).

Re claim 5, Jang et al. further disclose in Figures 4-5 the IDCT is a 2-D IDCT (Figure 4 with 110 and 140).

Re claim 6, Jang et al. further disclose in Figures 4-5 including a temporary random access memory ("TRAM") block, wherein the TRAM block stores partial results of the computation between clock cycles (120 and col. 11 lines 20-35).

Re claim 7, Jang et al. further disclose in Figures 4-5 upon the condition, a partial result is transferred from the TRAM to the computation block (120 and 140).

Re claim 8, Jang et al. further disclose in Figures 4-5 the computation block generates a new partial result utilizing data values transferred from the buffer block (prior entering 110) and the partial result transferred from the TRAM, the new partial result being then stored back in the TRAM (120).

Re claim 9, it has same limitations cited in claim 7. Thus, claim 9 is also rejected under the same rationale as cited in the rejection of rejected claim 7.

Re claim 10, it has same limitations cited in claim 3. Thus, claim 10 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 11, it has same limitations cited in claim 4. Thus, claim 11 is also rejected under the same rationale as cited in the rejection of rejected claim 4.

Re claim 12, it has same limitations cited in claim 3. Thus, claim 12 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 13, it has same limitations cited in claim 5. Thus, claim 13 is also rejected under the same rationale as cited in the rejection of rejected claim 5.

Re claim 14, it is a method claim of claim 1. Thus, claim 14 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 15, it is a method claim of claim 6. Thus, claim 15 is also rejected under the same rationale as cited in the rejection of rejected claim 6.

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 6,732,131 to Uetani disclose a discrete cosine transformation apparatus, inverse discrete cosine transformation apparatus, and orthogonal transformation apparatus.
- b. U.S. Patent No. 6,247,034 to Jang et al. disclose a fast fourier transforming apparatus and method, variable bit reverse circuit, inverse fast fourier transforming apparatus and method, and OFDM receiver and transmitter.

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c. U.S. Patent No. 6,694,342 to Mou discloses a scaled forward and inverse discrete cosine transform and video compression/decompression systems employing the same.

d. U.S. Patent No. 5,636,152 to Yang et al. disclose a two-dimensional inverse discrete cosine transform processor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 14, 2004

Chat C. Do  
Examiner  
Art Unit 2124



**ANIL KHATRI**  
**PRIMARY EXAMINER**